



**Gray Davis**  
GOVERNOR

**State of California**



**Tal Finney**  
INTERIM DIRECTOR

**DRAFT**

**HAZARD MITIGATION**

**Fire Hazard Planning & the General Plan**

**Governor's Office of Planning and Research**

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# **DRAFT**

## **Hazard Mitigation**

### **Fire Hazard Planning & the General Plan**

Prepared for:

#### **The Governor's Office of Planning and Research**

1400 Tenth Street, Sacramento, CA 95812-3044, 916/322-2318, [www.opr.ca.gov](http://www.opr.ca.gov)

**Tal Finney, Interim Director**

#### **The Partnership:**

California Rural Policy Task Force, Governor's Office of Planning and Research (OPR)

State Clearinghouse (OPR)

Governor's Office of Emergency Services (OES)

California Department of Forestry (CDF)

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## **THE PARTNERSHIP MEMBERS**

- Scott Morgan, Project Director, State Clearinghouse, Governor's Office of Planning and Research
  - Toni Symonds, Project Director, Director of the California Rural Policy Task Force, Governor's Office of Planning and Research
  - Terry Roberts, Director of the State Clearinghouse, Governor's Office of Planning and Research
  - Brian Grattidge, State Clearinghouse, Governor's Office of Planning and Research
  - Rich Schell, Staff Chief for the California Fire Plan, California Department of Forestry and Fire Protection
  - Melissa Frago, Fire Safe Planning and Data Collection Manager, California Department of Forestry and Fire Protection
  - Chris Adams, Hazard Identification and Analysis Unit Manager, Governor's Office of Emergency Services
  - Mike Staley, Senior Emergency Services Coordinator, Governor's Office of Emergency Services
  - Frank Hauck, Emergency Services Coordinator, Governor's Office of Emergency Services
  - Joan Smith, County Supervisor, Siskiyou County and Chair of California State Supervisor's Association Committee on Natural Resources
  - John Hoffman, Director, Natural Resources, Regional Council of Rural Counties
  - Richard Barnum, Planning Director of Siskiyou County
-

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## PREFACE

*The motivation behind this document is to illustrate an integrated planning process that includes many levels of government and private entities and to ensure that planning and funding are most effectively linked. Community safety is maximized when local hazard mitigation efforts are linked with local land use decisions.*

This publication is designed as a planning tool to help concerned citizens, planning professionals, Fire Safe Councils, and other interested parties, to develop local fire plans which can be easily incorporated into a city's or county's (hereafter referred to as "county") General Plan.

This is the first step in preparing a guidance package that incorporates multi-hazard mitigation planning into the General Plan and associated local prevention, response and mitigation plans. In the coming year, the Partnership will prepare supplemental guidance to the General Plan Guidelines to address flooding, earthquakes, landslides, severe weather, tsunami and other natural and man-caused events. California State law requires each county to adopt a general plan "for the physical development of the county, and any land outside its boundaries which...bears relation to its planning (Government Code [GC] 65300)." The role of a community's general plan is to act as a "constitution"; a basis for rational decisions regarding a county's long-term physical development. The general plan expresses the community's goals and embodies public policy relative to the distribution of future land uses, both public and private. Each general plan must contain seven (7) mandatory "elements" which are discussed in Part One of this publication. One (1) mandatory "element" of the general plan is the "Safety Element." The aim of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from hazards such as fires, floods, earthquakes, landslides, and other hazards.

### A. FIRE SAFE COUNCIL A NEW PLANNING PARTNER

Fire Safe Councils throughout California are developing fire plans for local communities. These councils are voluntary organizations typically consisting of state and federal fire agencies, local fire districts and local concerned citizens formed to enhance the effectiveness of fire protection. Some councils have combined with neighboring fire safe councils to develop countywide fire plans. If developed in conjunction with locally enforceable general plans, and related ordinances, these fire plans may provide policy direction that can be implemented through the local government.

Fire Safe Councils can provide a valuable service in the development of the fire protection and prevention policies and implementation measures of the Safety Element. Fire plans developed by the Fire Safe Councils that are adopted as part of the county general plan become part of the locally mandated policies which counties are obligated to implement.

Incorporation of fire plans that meet Federal and State criteria into county general plans will ensure funding is utilized consistent with a well-developed plan. Moreover, fire plans developed under the expectation of eventual adoption into the general plan utilizes the

energy, commitment and expertise of local fire safe councils while providing counties with development oversight, implementation, and regulatory capability. County fire plans need to reflect county policy as stipulated in the county's general plan. It is an opportunity to shape, direct and unify fire management activities of both public and private lands through consistency with county general plans.

## **B. ORGANIZATION OF DOCUMENT**

This publication provides a brief introduction to the required contents of a General Plan and the relationship of the General Plan to fire safety. (See Part 1 - A Discussion of the County General Plan.) Next it explores issue areas that should be addressed when developing a fire plan, the general plan elements that may be associated with each of these issue areas, suggested data that should be assembled, analysis that should be performed, and suggested policy examples for each issue area. Policies should be developed after careful review and consideration of the relevant data and analysis. Development of the individual elements of the General Plan should be based on a foundation of good data collection and sound data analysis. (See Part 2 - Areas to Consider When Developing Fire Plans.) Finally this publication provides state and federal contact information, related web site addresses and a list of useful publications (see Part 3 - Contact Information and Related Publications).

The intent of this document is to encourage Fire Safe Councils, concerned citizens and professional planners to develop sound fire plans for their communities that can be easily integrated by the County into the General Plan. Some of the information needed to create the fire plan may be available from the local fire department or other fire protection service provider (see Part 3). Conversely, the information developed for the local fire plan and the General Plan may assist first responders.

Funding is available for projects that improve the effectiveness of local fire protection. Examples include funds distributed through the National Fire Plan, the California Fire Plan and House Resolution (H.R.) 2389 - (The Secure Rural Schools and Community Self-Determination Act of 2000).

## I. STRUCTURE AND CONTENT OF GENERAL PLANS

*"The legislature also finds that decisions involving the future growth of the state, most of which are made and will continue to be made at the local level, should be guided by an effective planning process, including the local general plan, and should proceed within the framework of officially approved statewide goals and policies directed to land use, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, and other related physical, social and economic development factors."*  
([Section 65030.1](#), California Government Code.)

### A. INTRODUCTION

The General Plan is the master document, or constitution, that governs land use and development within a community. State law gives cities and counties (hereafter referred to as "county") wide latitude in formatting a General Plan, but every county's General Plan must satisfy fundamental content requirements which are described in the Government Code and in the *General Plan Guidelines* from the Office of Planning and Research (OPR). Foremost of these content requirements is the inclusion of seven (7) mandatory components, or elements, including the land use, transportation, housing, open space, conservation, noise and safety element.

For well over 100 years federal and state courts have upheld the authority of local governments to regulate their own internal affairs, subject only to compliance with state and federal laws. Described as "police powers" by the courts, these local authorities govern planning (among other things) and the regulations that control the type, size, character, and location of development. The General Plan process is one of many ways in which local governments exert their police powers.

The primary purposes of the General Plan are:

- To plan for the physical development of the county and any land outside its boundaries which bears relation to its planning.
- To act as a "constitution" for development, that is, a basis for rational decisions regarding a county's long-term physical development.
- To express the community's development goals and embody public policy relative to the distribution of future land uses, both public and private.
- To serve as the basis for establishing locally appropriate regulations over development.
- To guide most subsequent land use decisions, including division of land, capital improvements, development agreements, zoning, community plans, specific plans and use permits.

As the "constitution" for development, the General Plan guides subsequent development undertaken by the County and development approvals granted by the County. All development decisions must be consistent with the policy and intent of the General Plan.



“Consistent” means that development approvals and other related decisions of the County will further the policies and intent of the General Plan.

California law gives local governments wide latitude in designing or formatting General Plans. The seven (7) mandatory elements may be prepared as separate documents or combined. Regardless of format, the General Plan must be an integrated, internally consistent and compatible statement of policies. No one element has greater legal status or importance over another. Every policy in each of the elements must be compatible with the others.

In recognition of local differences, State law allows counties to tailor the General Plan to locally relevant issues. Within the seven (7) mandatory elements, the county need only address issues that are of local importance. Optional elements may be adopted in addition to the mandatory seven. These local differences make it rare to find two (2) General Plans that look alike.

There are many opportunities to address fire protection, fire prevention and hazard mitigation in the General Plan, most obviously in the safety element which deals with all manner of natural and man-made hazard to life and property. Unfortunately, wildlife hazard is often underplayed in the General Plan, either due to lack of recognition of the issue or because other issues have taken more prominence in the general planning process. With population growth creating more “urban-wildland interface” issues, and the increasing economic loss caused by wildland fire, this topic is due for review and incorporation into many local general plans.

## **B. OPR GENERAL PLAN GUIDELINES**

OPR’s guidelines for the preparation of General Plans recommend that “attention be devoted to issues of concern to the community”, and that “cities and counties need to address each issue to the extent it applies to the community.” Counties have wide discretion in addressing locally important issues. The types of safety issues that concern each county may be very different, but many rural counties recognize wildland fire hazard as a growing concern, exacerbated by population growth and increasing demands on natural resources.

The General Plan must contain a statement of development policies and a diagram or diagrams and text setting forth objectives, principles, standards and plan proposals (GC [Section 65302](#)). The *General Plan Guidelines* attempt to clarify these terms and recommends a method to achieve this directive. OPR recommends that for every locally relevant issue, the county should articulate one or more broad objectives, establish more specific policies that would help achieve those objectives, and finally, devise implementation measures (specific action items or funding programs) to implement the policies. Before starting this process, adequate and accurate data and information must be collected and analyzed to provide the basis for sound policy decisions.

### **1. DATA AND ANALYSIS**

Collection of appropriate data is necessary to describe the conditions, constraints, opportunities, and character of the issue. Fire and resource protection can be enhanced

(and part of the urban bias can be overcome) if the data and analysis portion of the Plan describe the wildland fire environment in detail: fire history, slopes, fuel loadings, average/worst fire danger, rates of spread, potential for structural threat, access. Post-fire flood damage potentials could also be described. The data and analysis section may include narrative descriptions, numerical data, maps, charts, and any other means of providing information about the issue of concern.

The data and analysis section is the starting point for better fire and resource protection. The more complete the analysis, the stronger the justifications for action will be. If data and analysis are weak or incomplete, then everything that follows will also be weak.

## **2. POLICY DEVELOPMENT**

After an issue or concern is described in the data and analysis, there must be policies that state the jurisdiction's decisions to act, control, or mitigate the defined problems. Every aspect of a problem must have some kind of coping policy identified. For example, if fuel loading was identified in the data and analysis section as a problem, there should be some statement(s) to the effect that development will be designed or controlled to reduce the volume. If access was identified as a problem, there should be policies to improve road design.

## **3. IMPLEMENTATION MEASURES**

These are the actual steps local government will take to implement their defined policies. Each policy described must have at least one (1) implementation measure, and may have several. For example, if a policy calls for improved access, then the implementation measure might be to adopt the road and street design recommendations in "Fire Safe Guides for Residential Development in California" into local ordinance. If a policy requires fuel reduction measures, then key ridges might be zoned for fuel breaks, and the zoning ordinance could require construction and maintenance by the developer.

## **4. THE MANDATORY ELEMENTS OF THE GENERAL PLAN**

[Section 65000](#) et. seq. of the Government Code is referred to as the Planning and Zoning Law. [Section 65302](#) of the Government Code defines the seven (7) mandatory elements of a General Plan. Each of the elements must contain text that incorporates descriptions, policies, objectives, and standards. The text must be accompanied by, and consistent with, description "diagrams." (Planning law does not require detailed maps, only these "diagrams" approximate the planning intent.)

GC [Section 65860](#) requires that General Plans be "internally consistent." From a practical standpoint, the requirement for internal consistency has two important meanings. First, it means that one element cannot contradict or conflict with any other element. All parts of the Plan must be integrated and offer mutual support to other parts of the Plan. Second, it means that the actions which follow general planning, such as specific plans, zoning ordinances, capital outlay projects, and development permits must meet the intent of the Plan's policies and objectives.

Six (6) of the mandated elements (excluding the noise element) are briefly described below, along with comment on their importance to fire and resource protection, and sample evaluation criteria (see Figure 1).

### **i. Land Use**

The Land Use element “dedicates” lands to particular purposes. It tells how the jurisdiction will designate and separate various uses such as commercial, industrial, and residential. Natural resource, agriculture, timber production, and flood plain areas (if any) must be included. A major intent of the element is to design areas for development that are compatible with one another. That is, “heavy industrial” areas should be separated from, and not adjacent to, residential areas. On the other hand, “light commercial” or “shopping center” designations may be compatible with residential uses. Sometimes commercial areas are designed as “buffers” or “gradual-change” uses between residential and industrial areas.

#### **Importance:**

Examination of the Land Use element in comparison with State Responsibility Area (SRA) lands may show current or future conflicts with fire and resource protection. All too frequently, the “compatibility” of uses is violated where development encroaches into wildlands. All types of uses are designated in, or adjacent to, hazardous fire areas without buffer zones or other mitigating measures. Land Use policies should consider and reduce these conflicts. Since zoning districts are derived from land use designations, it is important to assure that those designations, policies, and ordinances are compatible with wildland protection. For example, Residential, Open Space, Agriculture, and Timber Preserve land uses could be designated to include fuel break and fuel reduction zones.

#### **Sample Evaluation Criteria:**

Does the Land Use element include wildland fire risks and hazards in the data and analysis section? Do policies include requirements to reduce hazard levels by various means? Are recreation areas (parks, golf courses) and agricultural uses (pastures, irrigated tree farms) located to provide “buffers” between development and wildlands?

### **ii. Housing**

This element is required to designate how the government will regulate density and intensity of residential development. It includes provisions for low income and handicapped needs. In some cases, it may actually allow lower standards of design and construction to encourage “affordable” housing.

#### **Sample Evaluation Criteria:**

Does the data and analysis section for this element describe vulnerable, unsafe areas for “sub-standard” housing? Do the policies recognize these areas so that this type of development is prohibited there? Are required construction standards in conflict with defined fire protection needs (access, roofing, fire flow)? If so, what compensating mitigation measures are required to provide safety?

**FIGURE 1****OPPORTUNITIES FOR FIRE AND RESOURCE PROTECTION IN  
GENERAL PLAN ELEMENTS**

| <b><u>ELEMENTS</u></b> | <b><u>OPPORTUNITIES</u></b>  |
|------------------------|--|
| Land Use               | Greenbelts, Fuelbreaks, Fuel Reduction, Buffer Zones, Water Supply Requirements  |
| Housing                | Definition of Hazard Areas and appropriate mitigation for "Affordable Housing".  |
| Circulation            | Strategic Access, Road Design, Helibases, Helispot, Evacuation Routes (ground and air).  |
| Conservation           | Fuelbreaks, Fuel Reduction Zones, Additional Design Requirements for Development near Commercial Timber Zones (TPZ's), Air Tanker Base Locations, Helibases and Helispots. |
| Open Space             | Fuelbreaks, Fuel Reduction Zones, Strategic Access and Water Supplies, Off-Site Linking of Strategic Improvements.   |
| Safety                 | Evacuation Routes, Water Supplies, Road Standards, Fuel Reduction Buffer Zones, Air Access, Definition of Hazard Areas and Mitigation Requirements.                        |

### III. Circulation

This element consists of the general location of existing and planned transportation routes and public utilities. Designations, policies, and implementation measures in this element (and all others) must be correlated (consistent) with the Land Use element. The information is usually shown on maps or diagrams to show how the transportation system serves the various land use designations.

#### Importance:

This is the primary designator of access routes and road design requirements (not engineering standards). GC [Section 14000](#) requires that the Circulation element provide transportation facilities that reduce hazards to human life and minimize damage to natural resources. This provides the opportunity to make strong recommendations about transportation routes and design requirements such as turn-outs, helispots, and safety zones.

#### Sample Evaluation Criteria:

Does the element plan for satisfactory access to high hazard areas? Are standards high enough to provide safe evacuation from residential (and other) land use designations? Are policies defined to limit the number and length of one-way roads? Are heliports and helispots designated in areas that will facilitate suppression and other emergency needs?

### iv. Conservation

This element describes how the jurisdiction intends to protect and conserve its natural resources. The element should cover water, soils, forests, wildlife, and fisheries. Potential fire and flood impacts on all resources should be included.

#### Importance:

This element ties directly to the CDF mission of protecting SRA lands. It should be written to facilitate that mission. As with all other elements, this one must be consistent with the overall General Plan. It has to “make sense” in the way it relates the natural resource management policies to everything else. (In some counties, urban bias shows itself quite clearly in this element: only the local wastelands, rocky ridges, and impassable canyons are included in the element. This practice is not the intent of the Legislature nor the Planning and Zoning Law.)

#### Sample Evaluation Criteria:

Is the element consistent and logically applied, or does it just gather up unusable areas and “lump” them into a conservation category? Does the element discuss resource values? Are potential resource losses from fire (soil loss, sedimentation, local flooding, timber production, wildlife habitat, etc.) included in the data and analysis section? Do policies include management options of prescribed fire and fuelbreaks to enhance protection?

## **v. Open Space**

This element designates areas for preservation and managed production of natural resources, outdoor recreation, and public health and safety. The Open Space element is related to the Conservation element in some ways, and designated lands in either element could be actually or nearly the same. The important difference between Conservation and Open Space elements is the very specific inclusion of public health and safety requirements in Open Space. [Section 65560-4](#) of the Government Code dictates that the element should include designation of “areas that require special management because of fire risks.” The Code authorizes the connecting or linking of these areas into complete networks in the interest of public safety.

### **Importance:**

The Open Space element offers opportunity to analyze conflagration potential and to design fuelbreak and fuel reduction zones, helispots, access, and water systems into strategic fire defense improvement systems. Developers can be required to construct and maintain the improvements. Inclusion of strategic defense improvements in the Open Space and Safety elements will lead to zoning for such improvements and eliminate the owner-by-owner agreements and public agency financing now necessary for construction and maintenance.

### **Sample Evaluation Criteria:**

Does the element relate to fire safety and suppression effectiveness? Is it correlated with the Land Use, Safety, and Conservation elements to provide integrated and systematic resource and public protection improvement? Does the element contain policies and implementation measures requiring dedication, construction, and/or maintenance of these improvements on all projects?

## **vi. Safety**

The Safety element defines community protection measures in relation to fires, seismic and geological hazards. It must include provisions for evacuation routes, water supply, minimum road widths, and clearances around structures. It should include mapping of fire hazard severity zones, and could include analyses of minimum suppression resources required.

### **Importance:**

The element can be used to strengthen or further justify other elements. It is an excellent place to include project design requirements to reduce hazard levels, and provide for mitigation measures not included elsewhere in the General Plan. It may also be used to justify strategic fire defense systems zoning.

### **Sample Evaluation Criteria:**

Does the element correlate with others to provide for the best and safest suppression actions? Does it recognize evacuation needs? Does it address the traditional suppression problems and include policies and implementation measures to eliminate those problems? (Almost all of the suggestions and evaluation criteria for the other elements can be applied.)

If any General Plan element (or elements) is judged legally inadequate, development approvals in the jurisdiction could be suspended until the deficiencies have been corrected. This is a powerful incentive to any jurisdiction to review its Plan for completeness and adequacy.

Formal review is a job for attorneys and the courts, but the following questions can be used as an informal or initial test to determine whether or not a General Plan is weak or strong in terms of legal adequacy.

- It is complete? Are the seven (7) mandatory elements included?
- Do each of the elements contains supporting data, analysis, policies and implementation measures?
- Is it internally consistent? Do elements, data, policies, and implementation measures fit together? Are there omissions, conflicts?
- Is it long-term in perspective? Does it plan for the population growth, development potential, and resource issues that the community will face in the foreseeable future (usually 20 years)?
- Does it address all locally-relevant issues? What does it say about fire? Does it include a strategy to deal with wildland protection and fire hazards?
- Does it meet statutory criteria? Do the Conservation, Open Space, and Safety elements provide for public safety and resource protection? Does the Land Use element define hazard areas?
- Are maps and diagrams adequate? Can you tell where specific uses are authorized? Where restrictions apply? Are map and diagram descriptions in agreement with the General Plan text?

General Plans should be reviewed periodically to ensure that they continue to reflect current values and policies of the community, and that they contain accurate information about existing resources and hazards. If necessary, the General Plan should be revised or amended to remain current.

## **C. SUBORDINATE PLANNING TOOLS**

California courts have placed General Plans “atop the hierarchy of local government law regulating land use.” It is clearly established that all other planning and development approvals are subordinate to the General Plan and must be consistent with the General Plan. All development permits, public works projects, and zoning decisions must be consistent with the General Plan and its policies. There are numerous subordinate planning tools that may be used to implement the General Plan. Three commonly used tools are briefly described below to illustrate how fire safety can be incorporated into site specific or project specific developments.

### **1. SPECIFIC PLAN**

A Specific Plan is a tool for the systematic implementation of the General Plan within all or a portion of the county's planning area. It may encompass unlimited land area within

the jurisdiction, may deal with only one or all policies in the General Plan, and may even delve into subjects that were not addressed in the General Plan if they are relevant to the community. At a minimum, the Specific Plan must include a text and diagram which specifies all of the following: (1) the proposed distribution, location and extent of all land uses including open space, (2) the proposed distribution, location, and extent of major components of the transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities that are needed to support the proposed land uses, (3) standards and criteria by which development will proceed and standards for the conservation and use of natural resources, and (4) a program of implementation measures including regulations, programs, public works projects, and financing measures to carry out the Specific Plan.

All principles, goals, objectives, policies, standards, and implementation measures of the Specific Plan must be consistent with the General Plan. Adoption of a Specific Plan is a legislative act similar to the adoption of the General Plan or zoning ordinance. It can be adopted by resolution or by ordinance and may be amended as often as necessary. All future public works projects, zoning actions and development activities within the planning area must be consistent with the Specific Plan.

A Specific Plan is particularly useful for planning large projects whose development may be phased over time. It can be used to assemble a set of land use specifications and implementation programs tailored to the unique characteristics of a particular site. Specific Plans can stipulate development timing or set a schedule for infrastructure improvements to solve problems like exposure to wildland fire hazard.

## **2. SUBDIVISION ORDINANCE**

Land cannot be subdivided for sale, lease or financing in California without local government approval. The Subdivision Map Act (GC [Section 66410](#), et seq.) establishes the basic subdivision procedures, while giving local government the authority to regulate the design and improvement of subdivisions, require dedications of public improvements, require payment of impact fees, and require compliance with the objectives and policies of the General Plan.

These regulatory powers can promote the usual array of land use, circulation, open space and safety element objectives, policies, and implementation measures. Regulation of subdivision design can encourage numerous General Plan objectives including wildland fire safety, through the requirement to address fire prevention measures such as emergency access, adequate infrastructure and facilities, and separation (buffers) between buildable lots and wildland areas. Local governments can also require dedication of public improvements and land (through fee title or easements) to serve the subdivision.

A tentative subdivision map or parcel map cannot be approved unless the county finds that the subdivision, together with design and improvement conditions, is consistent with all aspects of the General Plan or any applicable Specific Plan. Two (2) of the findings that can cause a subdivision to be denied are (1) that the site is physically ill suited for the proposed type or density of the development or (2) that the subdivision's design or improvements are likely to cause substantial environmental damage or cause public



health problems (GC [Section 66474](#)). These are important considerations for counties who are reviewing subdivision proposals in areas that are subject to wildland fire hazard.

### **3. DEVELOPMENT AGREEMENT**

Development Agreements are contractual agreements voluntarily entered into by a county and a developer to vest development rights for a specific development project. They provide the developer with the advantage of “locking-in” zoning and development regulations for a specified time period, giving the developer a degree of assurance that some future local policy or regulation will not nullify a development proposal. In exchange, the Development Agreement allows the local jurisdiction to obtain additional concessions from the developer, such as higher design standards or dedication of additional public facilities, or otherwise obligate the developer to provide improvements in excess of the usual legal limits on exactions.

Through the Development Agreement, the county may require the reservation or dedication of land for public purposes and may include conditions and restrictions for subsequent discretionary actions. For example, the county may require dedication of emergency access easements, dedication of land for fire fighting facilities, on-going maintenance of those facilities, and subsequent review of fire safety plans before later phases of development can begin. (GC [Section 65865.2](#).)

It is important that local governments be aware of their authority to negotiate and enforce the terms of a Development Agreement to prevent and mitigate wildland fire hazards. Since many Agreements include phased development anticipated to occur over many years, they often describe the first phase of development in detail, but leave later phases less well defined. To ensure that fire prevention, protection and mitigation are adequately considered in all phases of a project, it is important for local jurisdictions to anticipate fire protection needs for all phases of the project, condition the Agreement accordingly, and monitor and enforce the terms of the Agreement.

GC [Section 65865.1](#) requires annual review of the Development Agreement at which time the developer must demonstrate good faith compliance with the terms of the Agreement. If the county finds that this has not occurred and makes the necessary findings, it may terminate or modify the Agreement. Where measures to prevent and mitigate fire hazard have been incorporated into a Development Agreement and have not been implemented according to the Agreement, the county should be aware that it has this power to enforce compliance.

## II. THINGS TO CONSIDER WHEN DEVELOPING FIRE PLANS

### A. FIRE HAZARD - ALL AREAS

Fires are regular occurrences in California and mitigation opportunities exist at all stages including before, during and after a fire event. This subsection includes general considerations for prevention, protection and fire loss mitigation. Subsequent subsections address special considerations for wildland, urban interface and urban areas.

#### 1. ASSETS AT RISK FROM WILDFIRE

**Possible affected GP Elements:** Safety, Housing , Land Use

##### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of assets at risk, both public and private, which may be effected by wildfire. In order to identify the local assets at risk from wildfire collect and analyze the following:

- Check with the local CDF unit for California Fire Plan information with regards to assets at risk.
- Identify assets at risk including, but not limited to:
  - Recreational areas
  - Scenic areas
  - Ecologically significant areas
  - Critical watersheds
  - Public and private timberland
  - Wildlife habitat
  - Rangelands
  - Sensitive soils
  - Landslide prone areas
  - Water supplies
  - Watersheds prone to contribute to flooding
  - Air Quality
  - Historic sites
  - Emergency Shelters
  - Structures, such as homes and business
  - Utilities and accompanying infrastructure
  - Population and economic centers.
- Classify assets based on their vulnerability to wildfire.
- Evaluate the identified assets based on economic and social value to the community and replacement value.
- Prioritize the assets for assisting in the selection of mitigation efforts and development of fire response plans.

**Note:** Assets are tangible and intangible. Prioritization can be accomplished in a variety of ways: most expensive to replace, easiest to protect, broadest benefit to community, closest to urbanized areas and any other priority system that may be relevant to the community.

- Additional data and analysis may be appropriate based on local conditions and geographic circumstances.

**Policy Examples:**

Based upon the data, analysis and prioritization of the local assets, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire.

In developing appropriate local policies to protect assets which may be at risk in the event of a wildfire, there are several key areas to consider including but are not limited to, cost of protection/mitigation, ability to protect the asset or mitigate the threat, and the consequences of losing the asset to the community.

The following are examples of policies that a local government might adopt to mitigate damage to assets, both public and private, related to a wildfire:

- The County shall establish site specific safety measures to protect county assets from wildfire.
- Public and Private landowners shall implement site specific safety measures that mitigate to a low risk condition fire hazards around county assets.
- County agencies shall work cooperatively with other agencies and private interests to educate private landowners on fire-safe measures to achieve a low risk condition.
- Public and private funding, where available shall be used to the greatest extent practical to assist private landowners in implementing safety measures to achieve a low risk condition.
- Public and private property owners shall create and maintain a 1/4 mile fuel modification zone (buffer zone) around county assets to achieve a low risk condition.

## **2. WATER SUPPLY**

**Possible affected GP Elements:** Safety, Conservation and Open Space

**Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of water supplies related to wildfire suppression. In order to identify inadequate water supplies with regards to wildfire suppression collect and analyze the following:

- Review National Fire Protection Association Standards 1141 and 1231.
- Identify existing peakload water supply including private water supplies which might be used to fight wildfires.
- Determine current minimum peakload water supply necessary to serve the area.
- Project future peakload water supply and demand
- Evaluate the adequacy of the water delivery system.

- Identify and price potential improvements to the water supply to meet the current and projected identified need.
- Identify peakload water supply requirements necessary to avoid unacceptable risks.
- Evaluate cost benefit analysis of additional water storage with regards to wildfire suppression.

### **Policy Examples:**

Based upon the data and analysis of the hazards, risks and vulnerabilities, associated with water supply, policies should be developed appropriate for local conditions to ensure access and availability of water supply in case of a wildfire. Issues which policy makers may wish to consider include, but are not limited to, protecting existing water supplies, developing additional water supplies and maintaining and/or enhancing the integrity of the delivery systems.

The following are examples of policies that a local government might adopt with regards to water supply and fire hazards:

- Public agencies shall maintain adequate water supplies to provide reasonable protection of assets from wildfire without disruption to community water supplies.
- Implement Office of Emergency Services URAMP Program.
- The county shall adopt a specific water supply standard such as NFPA 1142, "Rural Water Supplies". A developer shall certify compliance with that standard and continue maintenance and availability of that water supply.
- Each property outside of a developed water system shall maintain sufficient usable water storage to provide wildfire and structure protection on the property.

## **3. EMERGENCY SERVICES**

**Possible affected GP Elements:** Safety, Circulation, Land Use, Open Space, Conservation

### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of emergency services related to wildfire. In order to identify the local emergency services needs related to wildfire, collect and analyze the following:

- Emergency response:
  - Identify the LAFCO approved service areas of emergency services including fire, police, ambulance, etc.
  - Review the LAFCO municipal service review (MSR), if completed, for the emergency services in the area. If no MSR is available, undertake your own review of the services including cost, municipal service level, response time, condition of existing facilities and vehicles, local delivery system and other relevant information.
  - Identify (map) existing and proposed emergency service facilities.

- Identify areas where emergency services are not readily available.
- Determine the projected need for emergency services in the area.
- Based upon the LAFCO MSR, your own MSR and any other related information, evaluate the adequacy of existing emergency services and demand for additional services for current and projected need in the area.

**Note:** Beginning in 2000. . .MSR background

### Policy Examples:

Based upon the data and analysis of local emergency services, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues which policy makers may wish to consider include, but are not limited to, mutual aid and other protection/response partnerships, desired emergency service levels, available resources to sustain the desired level of emergency services, the cost of maintaining protection measures, reasonable supplemental funding mechanisms, public awareness of emergency service levels, protection capability relative to growth and development, and centralized verses decentralized training opportunities.

The following are examples of policies that a local government might adopt with regards to emergency services:

- No development shall be approved unless the local government can make a finding that development can be reasonably accessed and served in the case of a wildfire.
- New development and subdivisions shall include appropriate facilities to assist and support wildfire suppression.
- Fire safe measures shall be commensurate with the response time for emergency services (e.g. longer distance to a fire department calls for more stringent mitigation measures).
- Communities and open space areas shall provide ¼ mile fuel modification zone for areas suitable for emergency protective services.
- Fire Districts/Departments will engage in wildland fire training with a recognized state or federal wildland fire agency at least once a year.
- All new fire district/department staff responsible for fire suppression activities shall receive a minimum of      hours of training in local terrain during their first year.
- County shall identify and/or construct a low risk fire safety area (location) where community members can evacuate to and wait until emergency service providers can reach them. The county shall annually review the adequacy of the fire protection infrastructure relative to growth and development.
- The county shall consider the long-term maintenance needs of emergency service equipment and facilities when developing its annual budget.

## 4. EMERGENCY EVACUATIONS

**Possible affected GP Elements:** Safety, Circulation, Land Use, Open Space

### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of local need and potential response strategies for emergency evacuations related to wildfire. In order to evaluate local emergency evacuations with regards to wildfire collect and analyze the following:

- Identify previously designated emergency evacuation routes.
- Identify the number of people who currently use these routes.
- Develop a projected increase of people who would need to use these routes over the next ten years.
- Identify potential circulation improvements necessary to avoid unacceptable community risks.
- Evaluate the availability and access of signed routes for use by evacuees and response vehicles during a fire emergency.
- Identify potential availability of alternate routes.
- Identify the adequacy of the access and evacuation routes relative to the degree of development or use (e.g., road width, road type, length of dead-end roads, turnouts, etc.) (Public Resources Code (PRC) [4290](#).)
- Evaluate the potential for disruption to evacuation routes from fire, landslide movement, fault ruptures, earthquake-triggered failures, volcanic eruption and other hazards.
- Identify the location and capacity of existing emergency shelters.
- Estimate the need for expanded capacity at existing shelters or the need for additional emergency shelters. Shelter needs include residents, workers, campers, tourists and other people reasonably expected in the area.

### **Policy Example:**

Based upon the data and analysis of various scenarios for emergency evacuations at the local level, policies should be developed appropriate for local conditions. Issues which policy makers may wish to consider include, but are not limited to, the cost for retrofitting evacuation routes relative to sheltering in place, public awareness of evacuation routes, maintain the availability of evacuation routes and unique conditions relative to specific land uses or special needs populations. The following are examples of policies that a local government might adopt with regards to emergency evacuations:

- The county shall designate and maintain safe emergency evacuation routes from all communities and assets at risk.
- The county shall establish a unified road signing and street addressing system.

- The county shall establish and maintain low risk fire safety areas (location) and/or emergency shelters.
- The county shall establish a public information program educating the public on evacuation routes and fire safety.
- The county shall provide for broad public access to information regarding evacuation routes.
- The county shall establish minimum roads widths and flammable vegetation clearances for evacuation routes. (PRC Sections [4290](#) and [4291](#))

## 5. FIREFIGHTER SAFETY

**Possible affected GP Elements:** Safety, Land Use

### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of firefighter safety related to wildfire. In order to identify the local areas at risk with regards to firefighter safety collect and analyze the following:

- Identify existing defense zones.
- Identify low risk fire safety areas (location).
- Identify existing and alternate evacuation routes.
- Evaluate adequacy of existing defense zones.
- Evaluate need for additional defense zones to protect assets or communities at risk.
- Evaluate area to determine where it would be unsafe for ground fire fighting.
- Designate and map updated defense zones.

### **Policy Example:**

Based upon the data and analysis of the hazards, risks and vulnerabilities, regarding firefighter safety, policies should be developed appropriate for local conditions. Issues which policy makers may wish to consider include, but are not limited to, ability to maintain safety areas and defense zone, the appropriateness of centralized or decentralized training and unique geographic considerations for fire fighters.

The following are examples of policies that a local government might adopt with regards to firefighter safety:

- Public agencies shall designate and maintain low risk fire safety areas (locations).
- Public agencies shall designate and maintain fire defense zones where fire fighters can control wildfire without undue risk to their lives.
- Designate and publicize areas where firefighter safety prohibits ground attack fire fighting.

- Public Agencies and residential developments shall maintain fire defense improvements.

## **6. FIRE EFFECTS (MINIMIZING FIRE LOSS)**

**Possible affected GP Elements:** Conservation, Open Space, Land Use

### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of fire effects related to wildfire:

- Establish desired initial attack success rate.
- Identify maximum acceptable fire size.
- Determine which geographic areas would benefit from mitigation programs to reduce fire effects in the event of fire.
- Estimate cost of treatment methods and compare to cost of suppression.
- Determine which mitigation measures should be used in each geographic area to accomplish fuel modification and reduce fire risk. The following are possible choices:
  - Education
  - Increase initial attack capability
  - Prescribed Burns
  - Wildfire protection zones
  - Forest thinning
  - Grazing

### **Policy Examples:**

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to fire effects, policies should be developed appropriate for local conditions. Issues which policy makers may wish to consider include, but are not limited to, treatment costs verses suppression costs; cost, benefits and opportunities for mitigation at the parcel level verses the landscape level; cost to replace a community asset; impact of an irreplaceable community asset; the potential impact of mitigation measures on areas of special concern (cultural, environmental); and, fixed fire defense opportunities vs land management opportunities.

The following are examples of policies that a local government might adopt to mitigate fire effects:

- Forest thinning, grazing, and hand or mechanical clearing shall be conducted in lieu of prescribed fire unless prescribed fire can be clearly shown to provide the greatest overall benefit.
- Each community shall establish and maintain a plan that identifies hazards and risks, identifies targeted priority areas, and establishes preferred vegetation/fuel treatment methods and timing.



## B. FIRE HAZARD - WILDLAND AREAS

In addition to the areas of concern listed in the "Fire Hazards-All Areas" section, the following should be considered when developing policies related to wildland areas.

### 1. FUEL MODIFICATION

**Possible affected GP Elements:** Safety, Land Use, Open Space, Conservation

#### Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of fuel modification in wildland areas related to wildfire. In order to identify the local areas at risk with regards to fuel modification collect and analyze the following.

- Identify and classify fire hazard severity **zones** based on:
  - Degree of development.
  - Fuel loading.
  - Weather.
  - Slope.
  - Aspect.
  - Accessibility to fire protection assistance (i.e., response time, availability of helispots, proximity of air tanker attack bases, availability of woods workers, etc.).
  - Proximity to communities or assets at risk.
  - Historic fire data.
  - Other pertinent information and maps (see GC [Sections 51178-51189.5](#), PRC [Sections 4201-4205](#) and <http://www.fire.ca.gov/ab6/ab61st.html>).
- Analyze the potential for fire to critically impact or eliminate habitat or open-space values.
- Identify the policy implications for fire safe or fuels reduction policies of both public and private conservation or open-space areas.
- Prioritize areas needing vegetation/fuel treatment by:
  - Identify maximum acceptable fire size.
  - Estimating costs of treatment methods.
  - Developing timeline for implementation and maintenance of fuels treatments.
  - Evaluating how treatment methods impact habitat and open space resources and floodplains.

#### Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to fuel modification, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. In addition to the issues discussed in Fire Hazards - All Areas, policy makers may wish to consider other issues unique to wildland fires including, but are not limited to, acceptable level of fire risk, the degree of consistency and coordination between public and private landowner fuel modification

activities, the variety of fuel modification techniques and public awareness and ability to comply with residential clearance policies.

The following are examples of policies that a local government might adopt with regards to fuel modification to mitigate fire hazards in wildland areas.

- Prior to the construction of any structure, whether residential, recreational, or commercial, a site specific fuel mitigation plan shall be prepared. The location and development of any road, or any other man-made structure that may act as a fuel barrier, shall be done in consideration of its maximum benefit as a fuel barrier/fire break.
- All residences shall comply with the fuel modification requirements of PRC [Section 4291](#), whether located in state responsibility or local responsibility areas.
- Forest thinning and grazing and hand or mechanical clearing shall be conducted in lieu of prescribed fire unless prescribed fire is clearly shown to provide the greatest overall benefit.
- County resources will work with landowners to assist in choosing the best method of fuel reduction.
- County shall establish desired initial attack success rate.
- Evaluate how methods impact habitat and open space resources and floodplains.
- Identify preferred methods for areas needing treatment:
  - Education
  - Increase initial attack capability
  - Prescribed fire
  - Wildfire protection zones
  - Forest thinning
  - Grazing
  - Mechanical clearing
  - Hand clearing (piling, burning/chipping)

## C. URBAN INTERFACE AREAS

In addition to the areas of concern listed in the “Fire Hazards-All Areas” section, the following should be considered when dealing with urban interface areas.

### 1. URBAN INTERFACE HAZARDS

**Possible affected GP Elements:** Land Use

#### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of fire hazards in the Urban Interface. The purpose of the collection and analysis of the following data is to determine areas containing hazards, risks, and vulnerabilities in the Urban Interface. In order to identify the local areas at risk from wildfire collect and analyze the following:

- Check the list of “Communities at Risk” per the National Fire Plan (see [www.cafirealliance.org](http://www.cafirealliance.org)).
- Check “high fire hazard severity zones” maps. (GC [Section 51178](#), see maps at <http://ceres.ca.gov/planning/nhd/> and check with local governments for updates).
- Update “high fire hazard severity zones” maps as necessary.
- Inventory and prioritize your assets at risk (public and private).
- Undertake cost/benefit analysis of various hazard mitigation measures as opposed to fire suppression.
- Establish low risk category standards (tree spacing, predicted surface fuels flame length to crown height ratios, etc).

### Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire.

In addition to the issues discussed in Fire Hazards - All Areas, urban interface areas may require the consideration of other conditions including construction and zoning requirements, impact of permanent residents vs seasonal residents, and maintenance of mitigated areas.

The following are examples of policies that a local government might adopt to mitigate fire hazards in the urban interface:

- Public and private landowners shall minimize the risk of wildfire moving from one property to adjacent property.
- Public landowners shall provide a minimum of ¼ mile defensible fuel profile (buffer zone) at property lines and near points of special interest.
- Public landowners shall implement safety measures that result in a low risk category designation for wildfires threatening the urban interface.
- County agencies shall work cooperatively with other agencies and private interests to educate private landowners on fire-safe measures to implement in order to achieve a low risk category designation.
- Public and private funding for fire risk hazard reduction shall be prioritized to assist private landowners in implementing safety measures for a low risk designation.
- All residential, commercial and industrial construction and development will comply with the Board of Forestry’s State Responsibility Area Fire Safe Regulations (see California Code of Regulations, Title 14, Sections 1270 et seq.) relating to roads, water, signing and fuel modification.
- Public and private property owners shall maintain property in a low risk category (PRC [Section 4291](#) and GC [Section 51182](#)).

## D. FIRE HAZARD - URBAN AREAS

In addition to the areas of concern listed in the "Fire Hazards-All Areas" section, the following should be considered when dealing with urban areas.

### 1. FUEL/STRUCTURE MODIFICATION

**Possible affected GP Elements:** Safety, Land Use, Open Space, Conservation, Housing

#### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of fuel and structure modifications in urban areas related to wildfire. In order to identify the local areas/structures at risk with regards to fuel and structure modifications collect and analyze the following:

- Identify and classify fire hazard severity areas (Bates Bill?).
- Evaluate age, condition, and size of structures (code related issues) .
- Evaluate use and occupancy of structures.
- Evaluate construction materials and roofing assemblies.
- Evaluate structure density.
- Evaluate access and evacuation routes.
- Evaluate historical fire data.
- Evaluate other pertinent information (maps).
- Evaluate landscaping as potential fire hazard.
- Evaluate neighborhood defensible space (island of safety).
- Identify fire protection jurisdictions.
- Evaluate use of open space and other facilities as part of overall fire protection/mitigation plan.
- Inventory urban forests and evaluate affect with regard to fire hazard.

#### **Policy Examples:**

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to fuel/structure modifications, policies should be developed appropriate for local conditions to mitigate potential losses due to fire. In addition to the issues discussed in Fire Hazards - All Areas, urban areas may require the consideration of other conditions including construction and zoning requirements, impact of permanent residents vs seasonal residents, maintenance of mitigated areas, access routes, acreage of open space and/or areas having wildland fuel characteristics vs wildfire response capability. The following are examples of policies that a local government might adopt to mitigate fire hazards in urban areas.

- Urban developments shall be planned and constructed to resist the encroachment of uncontrolled fire.

- Creation of a self assessment district to maintain a fuel modification program.
- Establish public education services through the appropriate fire protection agencies.
- Open space facilities will be planned, designed, and placed to provide for fire protection/mitigation.
- Structures with fire protection sprinkler systems must provide for outside alarm notification.
- In high fire hazard areas fire rated roofing and construction materials shall be used in reconstruction and new development.
- Use of fire rated materials for construction purposes shall not be used as a means to discriminate against affordable housing policies.
- Open spaces shall be maintained so that ground fuels don't promote the spread of wildfire and aerial fuels don't allow the spread of a fire through the tree canopy.
- Public Open Spaces shall be used as demonstration areas and examples to neighborhood residents.
- Create an urban forestry plan to be concert with local fire plan.

## **E. POST EVENT RECOVERY & MAINTENANCE**

### **1. POST EVENT SECTION**

#### **Introduction**

The Recovery and Maintenance phase is an opportunity for the community and landowners to re-evaluate land uses and practices. A current General Plan will usually have the baseline data which to make the analysis.

### **2. SHORT TERM RECOVERY: DIRECTLY RELATED TO IMPACTS OF FIRE**

**Possible affected GP Elements:** Land Use, Open Space, Conservation

#### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of short-term recovery possibilities related to impacts of a wildfire.

- Evaluate post fire fuel hazard ratings.
- Evaluate vegetation/fuel conditions relative to future flood and fire control
- Evaluate vegetation conditions relative to future fire conditions and wildlife habitat

#### **Policy Examples:**

Based upon the data and analysis, policies should be developed for short term recovery methods that are appropriate for local conditions to mitigate potential future losses due to wildfire. Issues that public policy makers may choose to consider include but are not

limited to, benefit of recommended measure commensurate with the protection needed, opportunities for re-introduction of native species, short term recovery needs vs long term environmental health, debris removal vs habitat health, and consider short term flood risks and mitigation opportunities.

The following are examples of policies that a local government might adopt to mitigate wildfire impacts in the shortly after an event.

- The County shall endeavor to reduce post fire recovery time by replanting native species.
- Ensure fire protection measures provide sustainability for restoration projects.
- Ensure reduced future fire risk by removing sufficient dead woody vegetation while retaining reasonable wildlife habitat (cross-link with water quality).
- Retain sufficient downed logs for erosion control as well as habitat

### **3. LONG TERM OPPORTUNITIES-MAINTENANCE**

**Possible affected GP Elements:** Safety, Land Use, Open Space, Conservation

#### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of long term maintenance opportunities related to wildfire:

- Identify endangered species, cultural and historic resources, hazardous material conditions.
- Evaluate patterns and trends of development.
- Evaluate impacts, and potential impacts, of event on availability and condition of infrastructure.
- Evaluate impact, and potential impacts of the event on environment and ecosystem, including primary, secondary, and tertiary impacts.
- Evaluate "Fire Plan", Safety Element, for adequacy.

#### **Policy Examples:**

Based upon the data and analysis of the long term maintenance opportunities policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, the extent to which existing land use designations are appropriate, the potential for the re-evaluation of community assets, the success of past mitigation measures, sustainability of recommended fire mitigation measures and assurance that mitigation measures are continued to be implemented.

The following are examples of policies that a local government might adopt to mitigate fire impacts over the long term.

- Subdivisions and developments shall be designed to exist in concert with the natural ecosystem and to promote forest health and stewardship.

- Protect investment through reduction of fire risk.
- Extend defensible fuel profile zone agreements to subsequent landowners.
- Promote the opportunity to return to native plant species.
- In high risk wildland fire areas rebuild structures with a minimum 100 foot setback (when feasible) from property lines.
- Residential dwellings will be re-built using state of the art construction methods, materials, codes, and standards to reduce their susceptibility to wildfire.
- The legislative body shall periodically review the jurisdictions fire history and lessons learned, for the purpose of ensuring that mitigation measures are being maintained.

## **F. FLOOD HAZARD RELATED TO WILDFIRE (PRE- AND POST-FIRE)**

### **1. FIRE EFFECTS**

**Possible affected GP elements:** Land Use, Open Space, Conservation

#### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of flood hazards related to wildfire. In order to identify the local areas at risk from floods due to wildfire collect and analyze the following:

- Collect historical data on flooding, such as frequency and intensity.
- Identify (map) areas within floodplains or subject to inundation by a 100-year flood and the 500-year flood (see <http://ceres.ca.gov/planning/nhd/> ).
- Identify historic rainfall intensity.
- Determine and map areas that are potentially prone to flooding, and debris flow, following a catastrophic wildfire.
- Determine specific vulnerabilities within the identified flooding areas.

#### **Policy Examples:**

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to flooding, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, the need to re-asses an area after a wildfire to determine increased risk to flooding, and the cost and benefit associated with new mitigation measures regarding flooding due to wildfire.

The following are examples of policies that a local government might adopt to mitigate flood hazards related to a wildfire:

- All wildfire burned areas shall be treated to control storm water runoff prior to winter rains.

- Wildfire areas shall be restored by planting native vegetation cover or encouraging the re-growth of native species as soon as possible to aid in control of storm water runoff.
- Potential for future flood hazard shall be reduced by sufficient removal of dead, woody vegetation along watercourses following a catastrophic fire to reduce the risk of future catastrophic fires.
- Fire hazard reduction measures should balance forest health with fuel reduction activities while keeping in mind the potential effect on flood management.

(Note: Reduction in fire risk will simultaneously reduce flood risk.)

## G. LANDSLIDE HAZARD

### 1. WILDFIRE EFFECTS

**Possible affected GP Elements:** Conservation, Open Space

#### **Data & Analysis:**

Below is a list of data that may be useful in establishing a current picture of landslide effects as a result of a wildfire. In order to identify the local areas at risk from landslides due to a wildfire collect and analyze the following:

- Identify landslide prone areas from the Division of Mines and Geology and the U.S. Geological Survey landslide inventory and landslide and debris-flow susceptibility maps where maps exist.
- Identify areas which would be prone to landslides following a catastrophic wildfire.

#### **Policy Examples:**

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to landslides, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfires and subsequent landslides. Issues that public policy makers may choose to consider include but are not limited to, the extent to which the area is at risk to landslides due to wildfire, the need to adopt new mitigation measures, and the potential impact of mitigation measures on areas of special concern (cultural, environmental), and cost of mitigation vs benefits.

The following are examples of policies that a local government might adopt to mitigate landslide hazards.

- All wildfire areas prone to landslides shall be treated avert storm water runoff prior to winter rains.
- Native vegetation cover shall be planted or temporary slope stabilization measures will be installed as soon as possible to aid in landslide control.
- Potential for landslides shall be reduced by sufficient removal of dead, woody vegetation following a catastrophic fire.

(Note: Reduction in fire risk will simultaneous reduce landslide.)



## H. TERRORIST RISK

This sub-section is included to ensure that your terrorist preparedness actions do not substantially increase your fire risk or unduly restrict emergency response. Communities should carefully weigh the impact of both terrorism preparedness activities and fire preparedness activities and ensure that clear communication exists pre-incident and during the incident between the legislative body, law enforcement, emergency response units.

**Possible affected GP Elements:** Circulation, Land Use

### **Data & Analysis:**

Development of the individual elements of the General Plan should be based on a foundation of good data collection and sound data analysis. Policies should be developed after review and reflection of the relevant data and analysis.

Below is a list of data that may be useful in establishing a current picture of terrorist risks that are related to wildfire:

- Identify potential access barriers which, if removed, would prevent fire fighter access (bridges, dams, etc.).
- Develop an alternative emergency access plan.
- Identify areas for treatment as survivor zones (areas that could survive without protection assistance).
- Prioritize zones of treatment if sufficient suppression forces are unavailable.

### **Policy Examples:**

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to terrorists, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, identify and prioritize assets at risk for protection in the absence of response forces, are ground circulation routes adequate in the event of wildfire due to terrorist attacks, identify areas that could be exploited by terrorists that would tie up fire response assets and/or inhibit emergency response.

The following are examples of policies that a local government might adopt to mitigate terrorist risks related to wildfires:

- Wildfires shall be limited in size by the establishment of survivor zones (areas that could stop fires without protection assistance).
- Second-line defense zones shall be strategically placed to be used independent of key structures (bridges, dams).
- Key structures (bridges, dams) shall be protected from terrorist attack to prevent fire emergencies.
- Defense zones shall be adequate for fire protection without dependency on air attack.

### III. CONTACT INFORMATION, RELATED WEB-PAGES AND PUBLICATIONS

Contact names, phone numbers and emails for emergency preparedness and planning.

| Organization  | Contact  |
|---|--|
| State Fire Marshall's Office (SFM)  | Melissa Frago, Program Coordinator<br>Data Collection & Analysis/Fire Safe Planning<br>OSFM - Code Development & Analysis Division<br>(916) 445-8422<br><a href="mailto:Melissa.frago@fire.ca.gov">Melissa.frago@fire.ca.gov</a> |
| California Department of Forestry and Fire Protection (CDF)                                   | Rich Schell, Staff Chief<br>California Fire Plan<br>California Department of Forestry and Fire Protection<br>(916) 653-7472<br><a href="mailto:rich.schell@fire.ca.gov">rich.schell@fire.ca.gov</a>                              |
| Governor's Office of Planning and Research (OPR)<br><br>State Clearinghouse and Planning Unit | P.O. Box 3044<br>Sacramento CA 95812-3044<br>(916)-445-0613<br>web page: <a href="http://www.opr.ca.gov">www.opr.ca.gov</a><br>E-mail: <a href="mailto:state.clearinghouse@opr.ca.gov">state.clearinghouse@opr.ca.gov</a>        |
| Office of Emergency Services (OES)  | Hazard Mitigation Unit - North<br>Phone: 916-845-8150 Fax: 916-845-8386<br><br>Hazard Mitigation Unit - South<br>Phone: 626-683-6700 Fax: 626-683-6702   |
|   |  |

| Web-Page Addresses  |  |   |
|---|--|---|
| Organization  | Address  | Description   |
| Governor's Office of Planning and Research (OPR)            | <a href="http://www.opr.ca.gov">www.opr.ca.gov</a>       | Information on the Governor's Office of Planning and Research and publication produced by OPR.  |
| California Department of Forestry and Fire Protection (CDF) | <a href="http://www.fire.ca.gov">www.fire.ca.gov</a>     | Direct link to the Department of Forestry and Fire Protections Web-Page. Look here for listing of local CDF units in your area.                 |
| U.S. Department of Forestry                                 | <a href="http://www.r5.fs.fed.us/">www.r5.fs.fed.us/</a> | Direct link to the Department of Forestry's Pacific Southwest Region Home Page which contains contact information for California Field offices. |

| Web-Page Addresses                                   |  |   |
|--|--|---|
| Organization   | Address  | Description   |
| Governor's Office of Emergency Services (OES)        | <a href="http://www.oes.ca.gov">www.oes.ca.gov</a>   | Direct link to the Governor's Office of Emergency Services Home Page.                 |
| Federal Emergency Management Agency (FEMA)           | <a href="http://www.fema.gov/txt/library/fr02-4321.txt">www.fema.gov/txt/library/fr02-4321.txt</a> | Hazard Mitigation Planning and Hazard Mitigation Grant Program                        |
| Federal Insurance & Mitigation Administration (FIMA) | <a href="http://www.fema.gov/fima">www.fema.gov/fima</a>   | Manages the National Flood Insurance Program and oversees FEMA's mitigation programs. |
| FEMA's State and Local Mitigation Planning           | <a href="http://www.fema.gov/fima/planning_toc3.shtm">www.fema.gov/fima/planning_toc3.shtm</a>     | How to Guide. Understanding Your Risks (identifying hazards and estimating losses).   |
| FEMA's Hazards                                       | <a href="http://www.fema.gov/hazards">www.fema.gov/hazards</a>                                     | For information about a specific hazard and how to deal with it.                      |

| List of Available Planning Resources  |           |  |
|---------------------------------------|-----------|--|
| Element                               | Authority | Description  |
| General Plan Guidelines               | OPR       | Comprehensive Guide to city and county planning. Discussion of the General Plan and its contents.  |
| Planning, Zoning, and Development Law | OPR       | California Government Code Sections <a href="#">65000</a> - <a href="#">66037</a> (Planning and Zoning Law) and Sections <a href="#">66410-66499.58</a> (Subdivision Map Act) plus Miscellaneous Planning-Related Laws |
| Planners Training Series              | OPR       | Publications discussing planning specific topics (i.e. Variances, Conditional Use Permits)   |
| General Planning Publication          | OPR       | Publications covering a variety of general planning topics (i.e. Citizens Guide to Planning, The Planning Commissioner's Book)   |
| CEQA Technical Advice Series          | OPR       | Publications dealing with the California Environmental Quality Act.  |
| Fire Hazard Severity Zoning           | SFMO      | Assessment of fire hazard severity and identification / adoption of hazardous areas for the purpose of public safety and fire prevention is currently required in both SRA and LRA.                                    |

| List of Available Planning Resources   |  |  |
|--|--|--|
| Element  | Authority  | Description  |
| Firewise Planning  | <a href="http://www.firewise.org">www.firewise.org</a> | <p>Through presentations by experts and local stakeholders and workshop tools such as state-of-the-art mapping and wildfire simulations, community leaders and professionals will learn first hand the complexities involved in building communities (and citizenry) that are prepared for the inevitable effects of unwanted wildland fire.</p> <p>Participants learn how to:</p> <ul style="list-style-type: none"> <li>• recognize interface fire hazards</li> <li>• design Firewise homes and landscapes</li> <li>• deliver fire education</li> <li>• and incorporate Firewise planning into existing and developing areas of communities</li> </ul> |
| Model Ordinance for Defensibility of Space and Structures.                                 | Publication - SFMO                                     | Includes Zoning, Fire Protection Planning, Building Standards and Enforcement of fire prevention measures within Very High Fire Hazard Severity Zones.   |
| Real Estate (Wildfire) Natural Hazard disclosure   | Publication - SFMO                                     | Requires written disclosure upon sale of real property whether or not the property is located in an identified or adopted Very High Fire Hazard Severity Zone.   |
| A discussion of the County General Plan and the role of Strategic Fire Protection Planning | Publication - SFMO                                     | Outlines strategic planning for fire safety and prevention within a County General Plan update.  |
| I-Zone - Urban/Wildland fire Prevention and Mitigation                                     | Publication - SFMO                                     | Contains several informative articles about fire prevention in the Urban-Wildland Interface areas of California.   |
| Fire Hazard Zoning fieldguide  | Publication - SFMO                                     | Outlines and explains state laws relating to LRA and SRA fire hazard zoning.   |
| Structural Fire Prevention field guide   | Publication - SFMO                                     | Outlines and explains state laws and strategies relating to structural fire safety in Urban-Wildland Interface areas within California.  |
| Wildland Fire Hazard Assessment  | Publication - SFMO                                     | A research document containing information about fire hazard zoning  |

| List of Available Planning Resources               |                    |  |
|--|--------------------|--|
| Element  | Authority          | Description  |
|  |                    | history, laws and levels of compliance in local jurisdictions. This document also includes several different fire hazard assessment methods. |
| Wildland Urban Interface Code (IFC)                | Publication - SFMO | A model fire safety code for reference and/or adoption in Urban-Wildland Interface areas.  |
| RxR, Powerline, Industrial Operations Field Guides | Publication - SFMO | Outlines and explains state laws and regulations pertaining to fire prevention in association with timber operations, railroads, power lines |
|  |                    |  |

| Statutory and other requirement of the plan(s) |                            |   |
|--|----------------------------|---|
| Element  | Authority                  | Description   |
| California Fire Plan                           | <a href="#">PRC 4130</a>   | <p>A plan for adequate statewide fire protection of state responsibility areas shall be prepared by the board in which all land of each type shall be assigned the same intensity of protection.</p> <p>The CA Fire Plan is a statewide planning framework to assess wildland fire related conditions and apply appropriate pre-fire actions to reduce the costs and losses from wildfire. Currently adopted by OES as the State Hazard Mitigation Plan. Required by the CA BOF&amp;FP to be updated by CDF every 5 years. The plan is built at the local level with significant input from federal and local government and stakeholders</p> |
| State Responsibility Area Review               | <a href="#">PRC 4128.5</a> | Requires the Board of Forestry and Fire Protection to review and adopt updates to State Responsibility Area (that area of the State where CDF has wildland fire protection responsibility), every 5 years   |
| Pipeline Safety                                |                            |   |
| CUPA   |                            |   |

| Statutory and other requirement of the plan(s)              |                                |  |
|---|--------------------------------|--|
| Element   | Authority                      | Description  |
| Board of Forestry & Fire Protection's Fire Safe Regulations | <a href="#">PRC 4290</a>       | Regulations require that specific fire safe standards be met in the planning and development of a subdivision as well as the issuance of a building permit.                          |
| Building Standards  | <a href="#">GC 51189</a>       | Authorizes the State Fire Marshal to adopt building standards for fire safety in Very High Fire Hazard Severity Zones, and to publish a model ordinance for structure defensibility. |
| California All Incident Reporting System                    | <a href="#">HSC 13110.5</a>    | Requires reporting to State Fire Marshal of all fire, emergency medical services, hazardous materials and other fire department responses.   |
| Fire Hazard Severity Zones                                  | <a href="#">GC 51175-51179</a> | Requires local jurisdictions to assess hazards and adopt fire prevention standards for defensible space within Very High Fire Hazard Severity Zones.                                 |
|   |                                |  |

| List of current planning and outreach processes |           |  |
|---|-----------|--|
| Element   | Source    | Description  |
| CA Fire Plan                                    | CDF Units | The CA Fire Plan is an assessment tool based upon scientific data and stakeholder validation of the input values and resulting assessment. The plan is developed locally in 27 independently assessed and assembled plans that evaluate Assets at Risk, Level of Service, Vegetation and Fire Weather. The resulting data aggregate identifies priority areas for pre-fire management projects. Community and local government planning can take advantage of the data and assessments that are readily available. |
|   |           |  |

| Baseline data used in planning and evaluating programs and plans |           |             |
|--|-----------|-------------|
| Element  | Authority | Description |

| Baseline data used in planning and evaluating programs and plans |                            |   |
|--|----------------------------|---|
| Element  | Authority                  | Description   |
| State Responsibility Area  | <a href="#">PRC 4128.5</a> | Acts as trigger for application of regulations and standards. |
|  |                            |   |

| List of programs which provide planning money                         |                 |   |
|---|-----------------|---|
| Element   | Authority       | Description   |
| National Fire Plan  | Federal Funding | Through CDF or via the State Fire Safe Council, grant funding is available for community wildfire planning.   |
| FEMA - Hazard Mitigation Planning and Hazard Mitigation Grant Program | Federal Funding | For implementing Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act which provides new and revitalized approaches to mitigation planning. |
|   |                 |   |

## IV. GLOSSARY

Fuel Modification Zone

*“shelter in place”*

defense zones

fuel loading



# APPENDIX

## FEMA REQUIREMENTS RELATED TO LOCAL PLANNING

The Federal Emergency Management Agency's (FEMA) Interim Final Rule (IFR), published in the Federal Register on February 26, 2002, includes new requirements for State and local mitigation planning, and plans which must be approved by FEMA by November 1, 2003. These state and local plans are required in order for the state and/or local communities to be eligible for disaster assistance grants and other Stafford Act assistance, excluding emergency assistance.

The IFR is intended to provide guidelines for implementing Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), enacted under §104, the Disaster Mitigation Act of 2000 (DMA 2000). In addition, the FEMA IFR established local planning criteria so that local jurisdictions could actively begin the hazard mitigation planning process, and to develop comprehensive, local hazard mitigation plans before disaster events.

FEMA and the State of California recognize that local governments are involved in a range of planning activities. The local hazard mitigation plan is the representation of the jurisdiction's commitment to reduce risks from natural hazards, and serves as a guide for decision makers as they commit resources to reducing the effects of natural hazards. Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding. However, for some communities, meeting the deadline of having an approved local hazard mitigation plan in place by November 1, 2003 would appear to be difficult.

Fortunately, there is a good deal of information already documented and available in the General Plan, and other community emergency and hazard plans. This information may be linked or referenced to complete sections of a jurisdiction's local hazard mitigation plan.

A review of the local planning requirements of the IFR indicate that the following required sections of a local mitigation plan should at least be partially completed by an up-to-date General Plan, and that a jurisdiction's General Plan should be considered a major resource and source of information for completing a community's local hazard mitigation plan.

Improved integration of mitigation planning with other community planning efforts and documents, will result in a better understanding of risks and vulnerabilities, as well as serve to expedite implementation of mitigation measures and activities to reduce the risk of hazards to the community, both pre- and post-disaster.

Sections of the Local Mitigation Plans, required by the IFR for Section 322 of the Stafford Act, that may be linked or referenced from information found in General Plans include:

**NOTE:** *The significant hazards, including natural, technological and non-natural are identified and analyzed in a comprehensive, up-to-date General Plan, and mitigation measures to reduce the risk of those hazards are also discussed in detail.*

**IFR §201.6 Local Mitigation Plans.**

(a)(3) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. State-wide plans will not be accepted as multi- jurisdictional plans.

*NOTE: A local government should include in it's local hazard mitigation plan, documentation of attendance and participation in regional or multi-jurisdictional emergency and hazard prevention/mitigation meetings where the General Plan or other local plans were discussed.*

**IFR §201.6 (b) Planning Process** - An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(b)(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

(b)(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

*NOTE: A local government should include in it's local hazard mitigation plan, documentation of the public's or neighboring communities official's attendance and participation in meetings or council sessions where the General Plan sections, concerning emergency and hazard prevention/mitigation issues, were discussed.*

(b)(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

*NOTE: Local governments are encouraged to integrate, link and reference information from hazardous materials and other non-natural hazard plans and planning efforts within the community.*

*NOTE: For the items listed below in IFR §201.6 (c), Plan Content, A jurisdiction's General Plan, emergency plans, hazardous materials and other non-natural hazard plans should be considered a major resource and source of information for completing a community's local hazard mitigation plan.*

**IFR §201.6 (c) Plan Content** - The plan shall include the following:

(c)(1) Documentation of the *planning process* used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

(c)(2) A *risk assessment* that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:

(c)(2)(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

(c)(2)(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:

(c)(2)(ii)(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(c)(2)(ii)(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate;

**NOTE:** *Not all local jurisdictional General Plans provide "An estimate of the potential dollar losses to vulnerable structures." This information may exist only in the completed local hazard mitigation plan.*

(c)(2)(ii)(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

(c)(2)(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

**NOTE:** *Information on how a local jurisdiction's risk varies from a Multi-jurisdictional planning area may not be included in local General Plans or other local plans. This information may exist only in the completed local hazard mitigation plan.*

(c)(3) A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

(c)(3)(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

(c)(3)(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

**NOTE:** *A local jurisdiction's analysis of a comprehensive range of specific mitigation actions for new and existing buildings and infrastructure may not be included in local General Plans or other local plans. This information may exist only in the completed local hazard mitigation plan.*

(c)(3)(iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

**NOTE:** *An action plan, developed by local jurisdictions, describing how the specific mitigation actions will be prioritized, implemented and administered, according to a cost benefit analysis, may not be included in local General Plans or other local plans. This information may exist only in the completed local hazard mitigation plan.*